Borough of Whitehaven

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1963

AND REPORT OF THE

CHIEF PUBLIC HEALTH INSPECTOR

With the Compliments

of the

Medical Officer of Health

53. Duke Street,
Whitehaven.

Telephone No.
Whitehaven 661

BOROUGH OF WHITEHAVEN

HEALTH AND HOUSING COMMITTEE.

1963-64.

Chairman ..... Alderman J. Walsh, M.B.E.

Vice-Chairman ..... Alderman W. Stephenson

Members: THE MAYOR (Councillor J. McMean).

Aldermen J. Blamire, W. J. Denvir and W. E. Knipe.

Councillors F. Baxter, J. Boylan and G. Hanlon.

HEALTH DEPARTMENT STAFF

Medical Officer of Health:

J. N. Dobson, M.B., Ch.B., D.P.H.

Chief Public Health Inspector:

A. A. Beldon, C.R.S.I.

Additional Health Inspectors:

P. Eldon, C.R.S.I.

A. Foster, C.R.S.I.

Clerk: Miss I. Davidson.

Clerk-Typist: Miss G. Banks.

Tel:
Whitehaven 2661.

Health Department,
53, *Duke Street,*
Whitehaven.

Mr. Mayor, Ladies and Gentlemen,

There was only one major incident affecting public health in Whitehaven in 1963, an outbreak of food poisoning which is related in some detail. For all that the vital statistics reveal some interesting changes in the year, and these receive reference in the text of this Report.

The detailed County Report on the 1961 Census was published in 1963 and received towards the end of the year. It gives a mass of information of value to district councils but, inevitably, some is not in the form most helpful for health and housing purposes.

Thus, the definition of a "household" is such that married people living with parents-in-law will be shown in the majority of cases as part of the same household. The fact that two or three families may be sharing a house is not evident. Overcrowding is not immediately apparent, nor can it be judged from the density of population measured in terms of "persons per room" since "room" includes rooms used for eating and living in, as well as bedrooms.

Similar considerations limit the value of information given in regard to the sharing of household arrangements. Nevertheless it may be noted that of permanent houses in Whitehaven, 88% were equipped with hot and cold water, water closet and fixed bath. This is the highest proportion to be found in the County Districts, and compares well with the County average of 72.6%.

Estimating the housing need for the elderly is always difficult as it cannot be related directly to the population of the Borough. Thus the proportions of persons of 65 and over varied in 1961 from 9.6% to 18.1% in administrative counties. Once the proportion is known it is necessary to allow for the numbers requiring permanent hospital care, and those less vigorous old people who need care in County Council homes. Such Homes provided in Whitehaven are not, of course, for the exclusive use of Whitehaven residents. It is natural none the less that Homes in the County are

available as near as possible to old people's relatives and "home areas." Located in the town is a 32 bed modern-type Home, and the County Council's development plan provides for a 40 bed Home for the more infirm elderly in the near future. These, together with the partial dependency flats to be built at Hensingham by the Borough Council and another 40 bed County Council Home to be built towards 1970, should ensure adequate provision for the less able in the District. They will also do much to solve the problem of frail old people having to be retained at times in hospital beds for want of alternative accommodation when treatment is no longer needed.

With these thoughts in mind, there may be some guidance on the ordinary housing requirements of persons of pensionable age in the extract of Census figures given in this Report at the end of the section on Vital Statistics.

Although in 1961 there were over 3,000 such people it is seen that Whitehaven's total needs are proportionately less than the County and national averages. The necessity for bungalow and flat-type accommodation is likely to be greatest among the over-75 group and pensioners living alone; these groups of course overlap. At present Council-owned accommodation of this specific nature numbers 316 dwellings, a substantial total. The projected increase in the numbers of elderly persons will, however, provide a critical test of foresight in the next twenty years. It is expected that the whole over-65 group will increase by some 32.5%, the greatest proportionate increase being in those over 75 by approximately 40.5%.

The reservations hedging this important subject of future housing provision are so many that accurate prediction is impossible. The Census nevertheless provides much factual information not hitherto available without undertaking a local survey.

New legislation during the year included the Offices, Shops and Railways Premises Act, 1963. This lays down standards for working conditions so as to promote the health, welfare and safety of persons employed in such premises and its implementation is a responsibility shared between Health

Departments, the Factory Inspectorate, Fire Authorities and Mines and Quarry Inspectorate. The task of registration, inspection of premises, advice on how to comply with the Act and enforcement is likely to be a very considerable additional commitment, the brunt of which will be borne by the public health inspectors. The end results of these new duties should nevertheless be beneficial to a large section of the community whose well-being at work has been poorly protected in the past.

In that larger responsibility, the health of all citizens of the Borough, it appears to me that only one important measure has yet to receive the compelling attention it merits. Members of the Council have considered alternatives to the present unsatisfactory method of refuse collection, again a matter of comment in the report of the Chief Public Health Inspector. It has now been decided to make a trial of collection by the paper sack system on a housing estate presently being built.

Even this pilot scheme on a limited scale promises to take upwards of three years to come into full operation, so that any improvement for the whole town lies a considerable way ahead. Yet the existing mode of collection could hardly be bettered as a means of spreading dust and dirt. Its sole merits are cheapness and simplicity of operation.

It follows that increased cost is inevitable if a proper and hygienic system is to be employed, a cost which can be justified to ratepayers with complete conviction. Money not spent in the past has been saved at the cost of risk to health, and offence to a growing number of people. I am convinced that Members will continue to maintain their interest in this problem, and once the new scheme is under way I hope that growing demand will lead to its early adoption in its entirety.

In conclusion I wish to thank my colleagues on the Council's staff for their continued good offices which, as always, have helped the work of the Health Department.

I am, Mr. Mayor, Ladies and Gentlemen,

Your obedient Servant,

J. N. Dobson,

Medical Officer of Health.

SECTION A.

STATISTICAL SUMMARY

I.—General Statistics.

Area of Borough in acres	4,315
Population (Registrar-General's estimate, mid-year, 1963)	27,600
Population, Census 1961	27,566
Persons per acre	6.5
Number of inhabited houses, 1963-64, according to rate books	7,858
Rateable Value 1st April, 1964	£895,268
Estimated Product of a Penny rate, 1964-65 ...	£3,593

VITAL STATISTICS

(a)	Number of legitimate live births ...	472	
	Number of illegitimate live births	28	(5.9%)
	Total live births	500	
	Crude Birth Rate per 1,000 of population		18.1
	Adjusted Birth Rate per 1,000 of population		16.9
(b)	Number of legitimate still births		17
	Number of illegitimate still births ...		—
	Total still births		17
	Still birth rate per 1,000 total live and still births		32.9

DEATHS.

(a)	**Infant Deaths** (deaths under 1 year)	
	Legitimate infants	5
	Illegitimate infants	—
	Total infant deaths	5
	Infant Mortality rate per 1,000 live births	10.0
	Legitimate infant deaths per 1,000 legitimate live births	10.6
	Illegitimate infant deaths per 1,000 illegitimate live births	Nil
(b)	**Neo-Natal mortality rate** (death under 4 weeks per 1,000 total live births) ...	6.0

(c) **Early Neo-Natal mortality rate** (deaths under 1 week per 1,000 total live births) 4.0

(d) **Perinatal mortality rate** (still births and deaths under one week per 1,000 total live and still births) 36.7

(e) **Maternal mortality** (including abortion) Nil

(f) **Deaths at all ages** 280
Crude death rate per 1,000 of population 10.2
Adjusted death rate per 1,000 of population 12.7

STATISTICS RELATING TO ELDERLY PERSONS, CENSUS 1961.

NUMBER BY AGE GROUP.

	Male	Female	Total (Persons)	% Popn. (27,566)	
Pensionable Persons :					
(Men 65 or over, Women 60 or over)	990	2095	3085	11.2	
Persons 65 or over	990	1476	2466	8.9	(11.4)
Persons 75 or over	340	529	869	3.1	(3.9)

HOUSING.

Households of 1 or 2 Persons only :				% of Pensioners
Pensioners living alone	78	402	480	15.6
Two pensioners			642	20.8
Pensioner and non-pensioner			427	13.8
Pensioners living in households of 3 or more persons			1536	49.8
				100%

NOTE:—Figures in brackets are the equivalent rates for the Administrative County. The rates for England and Wales were :—persons 65 or over, 11.9%; persons 75 or over, 4.3%.

Statistics for the Borough are shown in relation to those of the County and England and Wales in Table 1.

TABLE 1.

Comparative Statistics.

	Birth Rate	Death Rate	Infant Mortality Rate
Whitehaven Borough	18.1	10.2	10.0
Cumberland (Administrative County) ...	17.7	12.5	22.0
England and Wales	18.2	12.2	20.9

Table 1 shows only crude rates: corrected rates are given in the subsequent tables.

TABLE 2.

Birth Rates.

Year	Number of Births	Birth Rate per 1,000 of population : Whitehaven	England & Wales
1959 ...	555	20.3	16.5
1960 ...	568	20.6	17.1
1961 ...	537	18.9	17.4
1962 ...	601	20.9	18.0
1963 ...	500	16.9	18.2

A birth rate of 16.9 is not in keeping with the established Whitehaven pattern. It is almost certainly the lowest ever recorded, though strict comparison with the data available for the Borough since its incorporation is not possible as birth adjustment factors to allow for variations in population structure were not introduced until 1949. One might have expected the birth rate to decline in the years of the depression, not least on account of the dwindling population in Cumberland from 1925 to 1939 when the migration of young people was taking place. Throughout this period the rate nevertheless remained well in the twenties. Nor did it show any

notable fall in the war years 1939 to 1945. There are no such possibilities to consider now.

True, the stillbirth rate is rather high, but had it been at a reasonable level resulting in more live births the live birth rate would still be unusually low. There is indeed a sharp contrast with the birth rate of 21.6 in the surrounding Rural District, and the figures for 1964 are awaited with interest.

Table 3 shows death rates over the past five years.

TABLE 3.

Death Rates.

Year	Number of Deaths	Death Rate per 1,000 of population : Whitehaven	England & Wales
1959	... 323	14.0	11.6
1960	... 283	12.5	11.5
1961	... 322	13.7	12.0
1962	... 310	12.6	11.9
1963	... 280	12.7	12.2

The adjusted death rate is slightly higher than that for the preceding year despite the occurrence of fewer deaths.

The change in the death comparability factor which accounts for this apparent inconsistency is certainly adverse. With the proportion of people under thirty years of age above the national average, and the over forties below, a low crude death rate in Whitehaven is to be expected. But no factor stands out as likely to account for a statistical change of such degree in the course of a single year. It is a reminder perhaps that the comparability factor prescribed annually by the Registrar General is based at least in part on estimated population figures.

It is convenient to mention here that Table 8 showing deaths during the year has been re-cast in line with practice adopted in 1963 by the Registrar General. This results in a shorter table due to the elimination of headings for causes of death under which none has occurred.

Despite the overall reduction in the number of deaths there is a relative increase in cancer generally.

There were no maternal deaths. The maternal mortality rate for England and Wales in 1963 was 0.28 per 1,000 total live and still births.

TABLE 4.

Infant Death Rate.

Year	Number of Infant Deaths	Death Rate per 1,000 live births : Whitehaven	England & Wales
1959 ...	14	25	22
1960 ...	19	33	22
1961 ...	14	26	21
1962 ...	15	25	22
1963 ...	5	10	21

The low infant death rate should be considered in its relationship to a high stillbirth rate. It can then be seen that the perinatal mortality rate is much the same as in the previous year, and at 36.7 it may be compared with the national figure of 29.3 in 1963.

The pleasing fact remains that only five infants died, and of these one was premature while three carried the burden of congenital malformation.

TABLE 5.

Deaths of Infants under 1 Year of Age.

Cause of Death	Age in Weeks				Age in Months				Totals
	0—	1—	2—	3—	1—	3—	6—	9—	
Prematurity	1	—	—	—	—	—	—	—	1
Congenital malformations	1	—	—	1	—	1	—	—	3
Broncho pneumonia	—	—	—	—	1	—	—	—	1

	Under 1 month	Over 1 month	
Total deaths	3	2	5

Cancer Mortality.

There were 48 deaths from cancer, the primary sites of the disease being shown in Table 6, while in Table 7 are given death rates for the Borough and England and Wales.

TABLE 6.

Deaths from Cancer.

Location of Disease	Male	Female	Total
Stomach	1	4	5
Colon and Rectum ...	5	3	8
Lung and Bronchus ...	9	3	12
Breast	—	3	3
Prostate	2	—	2
Other sites	14	4	18
	31	17	45

In 1963 lung cancer regained its prominence as the biggest single cause of deaths from cancer. There was a wider range than usual of varieties of cancer, accounting for the number given under the heading of "other sites," but the overall incidence is again below the national rate.

TABLE 7.

Cancer Death Rates.

Year	Number of Deaths	Annual Death Rate per 1,000 of population : Whitehaven	England & Wales
1959 ...	46	1.75	2.14
1960 ...	41	1.55	2.16
1961 ...	46	1.69	2.16
1962 ...	38	1.38	2.18
1963 ...	48	1.74	2.18

TABLE 8.

CAUSES OF DEATH DURING THE YEAR 1963.

Registrar-General's Classification

	Males	Females
Tuberculosis of Respiratory System ...	1	—
Malignant Neoplasm, Stomach ...	1	4
Malignant Neoplasm, Lung and Bronchus	9	3
Malignant Neoplasm, Breast	—	3
Other Malignant & Lymphatic Neoplasms	21	7
Leukaemia, Aleukaemia	1	—
Diabetes	—	4
Vascular Lesions of Nervous System	19	25
Coronary Disease, Angina	28	21
Hypertension with Heart Disease ...	2	6
Other Heart Disease	12	17
Other Circulatory Disease	4	7
Pneumonia	4	4
Bronchitis	8	4
Other Diseases of Respiratory System	4	1
Ulcer of Stomach and Duodenum ...	2	2
Gastritis, Enteritis and Diarrhoea ...	—	1
Nephritis and Nephrosis	—	1
Congenital Malformations	2	3
Other defined and Ill-defined Diseases	23	14
Motor Vehicle Accidents	3	1
All Other Accidents	4	3
Suicide	1	—
Total (all Causes) ...	149	131
		280

SECTION B.

GENERAL PROVISION OF HEALTH SERVICES.

(a) Staff.

There were no changes in staff during the year.

(b) Laboratory Facilities.

Use is made of the bacteriological facilities at Whitehaven Hospital under the direction of Dr. R. Dallachy, and of the Public Health Laboratory Service at the Cumberland Infirmary directed by Dr. D. G. Davies. Analytical services are provided by Messrs. Ruddock and Sherratt, Public Analysts, Warrington.

(c) Local Health Authority Services.

Medical services provided under Part III of the National Health Service Act are the responsibility of the Cumberland County Council. Information about the provision of Home Nursing, Home Helps, Immunisation and other services is available at the office of the Area Medical Officer, Area Health Office, Flatt Walks, Whitehaven.

Type of Clinic	Flatt Walks	Mirehouse	Woodhouse
School Clinic	... Wed. 10-11 a.m.		
Child Welfare	... Tue. 2-4 p.m.	Mon. 2-4 p.m.	Wed. 2-4 p.m.
Ante-Natal	... Fri. 2-4 p.m.	Wed. 2-4 p.m.	Mon. 2-4 p.m.
Dental	... Daily 9-30 a.m.	—	—

Attendance at the consultant and other special clinics at Flatt Walks is by appointment only. Sessions are held as follows; paediatric, ophthalmic, ear, nose and throat, orthopaedic, child guidance, speech therapy, hearing assessment and training, and chiropody.

The Training Centre, Flatt Walks, has 65 places for subnormal children and there is a temporary Adult Training Centre at Meadow View pending the completion of new premises at Distington.

(d) Hospital Services.

In this section of the Report it has been customary to give a formal list showing hospital bed availability in Whitehaven. This is now discontinued with the development of hospital services on an area basis. It is, indeed, apt to be out of date in the face of the continuing process of transferring facilities to the growing new West Cumberland Hospital. This will be the future district general hospital, fulfilling the aim of concentrating services in a unit large enough to provide a full range of specialties and an emergency service at all times.

Departments already in use are medical, maternity, orthopaedic, psychiatric, chest and geriatric. In prospect are the closure of The Hollins, Meadow View House and Galemire Hospitals. Whitehaven Hospital is to provide interim geriatric accommodation and may ultimately become a geriatric day hospital.

(e) National Assistance Acts.

No enforcement action was taken during the year to secure proper care and attention for the elderly and chronic sick.

SECTION C.

SANITARY CIRCUMSTANCES OF THE AREA

A report by the Chief Public Health Inspector on the work of the year has been submitted and will be found at the end of this report.

SECTION D.

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS AND OTHER NOTIFIABLE DISEASES.

Notifications, other than those of tuberculosis, are shown in Table 9.

TABLE 9.

Infectious and Other Notifiable Diseases.

Disease	No. of cases Notified	Died
Scarlet Fever	3	—
Whooping Cough	17	—
Measles	177	—
Pneumonia	3	—
Food Poisoning	4	1
Food Poisoning cases otherwise ascertained	16	—

The food poisoning cases became known on Thursday, 20th June, 1963, when a house physician at the West Cumberland Hospital reported the death of an otherwise healthy young woman who had been admitted the previous day in a collapsed state with symptons which it was thought may have been so caused. It was soon confirmed from general practitioners that a number of cases of severe diarrhoea had occurred in the town, and it was also learned that the deceased woman's husband and children were among those affected. A number of patients were visited to obtain histories of food consumed and to arrange for bacteriological tests.

Two days later the causative organism, Salmonella typhimurium, had been identified and on Sunday, 23rd June, a Seascale practitioner reported three cases in his practice in one family who had eaten cream cakes bought in Whitehaven the previous weekend. Samples of artificial cream mix were got from the shop, also samples of all the dried and liquid egg used for confectionery purposes in Whitehaven. All were to prove free from dangerous organisms.

It was found, however, that persons who were or had been affected had purchased their meat and meat products from the same butcher. By now another woman had been admitted to hospital, as was a man who was acutely ill with the condition and who was subsequently transferred to Newcastle for special treatment; both had consumed sausages or pork from this shop, and it was learned that an employee in the shop in question was off ill with the same condition. These three had Salmonella typhimurium infections.

All the available employees in the shop were interviewed and gave a clean bill of health, but in the ensuing laboratory tests one was found to be excreting salmonella. There was no information at this stage about two other employees who were on holiday for a fortnight and were out of the district before it was thought that the shop was involved.

Numerous samples of meat and meat products, and tests of machinery and working surfaces in the shop yielded negative results; these tests were carried out on 26th June, some 10-12 days after the principal spread of infection must have taken place judging from cases coming to light in the enquiry.

The two employees on holiday were not seen till their return, but were interviewed before they could return to work. One proved to have been ill with typical symptoms and at work in the shop for five days before proceeding on holiday on the day the outbreak started. Both were permitted to return to work, along with the person found to be excreting the germ, on completion of a series of satisfactory laboratory tests.

Other persons found to have been infected at the relevant time with the organism responsible included a food handler at another shop, and a hospital kitchen-maid; both obtained their meat from the shop under invesitgation. Both had been off work moreover from the onset of their illness, and it was thought unlikely that they would have caused any further cases. They, too, were kept off work until cleared by bacteriological examinations.

During the period of a week to ten days after the original outbreak, six nurses in two hospitals were also ill with symptoms suggestive of food poisoning. All were taken off duty and investigated bacteriologically before resuming at the hospitals, but only one of them was found to be excreting Salmonella typhimurium. She was probably a secondary case but had eaten nothing from the shop concerned, and the absence of cases among hospital patients ruled out the likelihood of infection in the hospital kitchens. The only association coming to light was that she was friendly with one of the nurses who nursed the three patients admitted with food poisoning. This nurse contracted diarrhoea but no significant organism was isolated, and the likelihood of infection through this medium seems remote. There was also one other proved case in a schoolchild which could not be accounted for despite prolonged enquiry.

There were 19 cases altogether from which Salmonella was isolated and which were traced back to the butcher's shop, and the Seascale family, who attributed their illness to cream cakes, were found in fact to have bought their weekend meat from the same butcher at the critical time.

It was not ascertained whether infected pigs could have been responsible for the outbreak. Farms from which pigs had been purchased for use at the relevant time were visited, an animal health history obtained and tests carried out on half a dozen farms, all with negative results. A drain swab at the slaughterhouse did, in fact, yield a heavy growth of Salmonella typhimurium. This was to prove of the same serological type, phage type 12a, as was isolated from the fatal case, and the case and excreter in the shop in question. A proportion of other specimens positive for salmonella was also typed and gave the same result. These included the food handler at another shop and the hospital nurse, so that the associations found by enquiry were confirmed bacteriologically. The drain swab at the slaughterhouse was of uncertain significance. The relationship between abbatoir drain swabs infected with food poisoning organisms and the organisms recovered from patients with food poisoning was meti-

culously investigated in Coventry in a planned enquiry lasting one year. No positive correlation was found, and it seems that though pig meat can carry human salmonella food poisoning it is not commonly responsible unless it is infected after leaving the slaughterhouse.

There was indeed no means of establishing the exact sequence of events, but it is clear that the food handler who was ill for a few days before the outbreak presented a grave risk. She might herself have been infected from meat products, but it is more likely she was infected in the course of a prior outbreak involving the village where she lived. That incident came to light when she was seen on her return from holiday, and it was then too remote to make detailed enquiry profitable. She may well have been responsible for the infections of the two other members of the staff. It could have been spread, for example, at the daily tea break, for the women shared the task of brewing-up. Whatever the course of events three of the staff were involved, and the shop was undoubtedly the distribution centre for the outbreak.

Sausages, as in this episode, are apt to be a vehicle for food poisoning, but most sufferers had eaten cold roast pork. Roasting gives no guarantee of sterilising meat, particularly when the joints are large. In this case large joints were slow roasted for 6 hours and left to cool overnight in the ovens with the doors open, creating excellent conditions for the multiplication of bacteria. They had been prepared and stuffed by the assistant who made the sausage, and who was himself ill when enquiries started.

This outbreak presented a number of interesting features. The family doctor attending the assistant butcher arranged bacteriological examination at his first visit and the positive result was telephoned to the medical officer of health. This was the first confirmation of infection at the butcher's and his prompt action, together with the hospital information which had prompted immediate investigation, was to prove invaluable.

Furthermore, not only was the sampling of artificial cream and dried egg abortive, but also examination of duck eggs

on sale in the town. At one time notorious as a source of food poisoning, duck eggs as it happened were among foods eaten by the woman who died and her husband who was also ill, and these had to be considered although their butcher was already suspect.

It is sometimes thought that reporting possible food poisoning is of little value. Mild cases clear up quickly and some, like the woman employee who was suspected of initiating the outbreak, do not consult a doctor at all. Yet it was possible on this occasion to prevent the assistant butcher, the food handler at another shop, and the nurse, returning to duty while they were still a danger to others. All felt well again quite soon, but they excreted salmonella for 21, 23 and 25 days respectively and a premature resumption of work by these key figures could have been a serious matter.

Even so, considerable harm was done. Many of the victims were profoundly ill, indeed the fatality took place with fearful suddenness. Severe shock and dehydration were features in some, and one man was saved only by the use of an artificial kidney. Moreover some hundreds of people had been infected to judge by information which accumulated retrospectively. Food poisoning indeed is sufficiently prevalent in this country to be of no less importance than the more feared episodes of typhoid and paratyphoid. It causes more deaths as a rule, and accounts for more of the nation's time off work.

But there is nothing obscure about preventing most food poisoning outbreaks. Managers of food businesses should know how to prepare and keep food safely; it is unforgivable to handle food after using the W.C. without washing the hands thoroughly; indefensible for a food handler not to report diarrhoea to a doctor. The 1961 Public Health Act has removed the old difficulty that a food handler kept off work loses his wages and gets only sick benefit. Compensation is now payable, indeed was paid in this outbreak, to persons who stay off work on the instruction of the medical officer of health.

TUBERCULOSIS

Notifications in 1963 were received as follows: —

TABLE 10.

Tuberculosis Notifications.

	Respiratory	Non-Respiratory	Total
Male ...	5	1	6
Female ...	3	—	3
Total ...	8	1	9

New cases of tuberculosis were very sparse, accounting for the unusually low incidence given in Table 11.

TABLE 11.

Tuberculosis Incidence.

Notifications per 100,000 of the Population.

	Respiratory :		Non-Respiratory :	
Year	Whitehaven,	England & Wales.	Whitehaven	England & Wales.
1957	108	64	15	8
1958	65	59	4	8
1959	60	57	—	7
1960	72	47	4	6
1961	48	45	15	6
1962	69	39	7	6
1963	29	36	4	6

The state of tuberculosis in Whitehaven was discussed in the 1962 Report, and here it is sufficient to note that in 1963, for the first time, no new active cases were discovered by Mass X-ray. This is not unusual nowadays for a number approaching 2,000 examinations, but is less a cause for satisfaction when it is remembered that these include general

practitioner referrals. Such precautionary examinations, where tuberculosis is merely being excluded as a possibility, may be expected to yield a more tangible reward. In fact, relatively few examinations were made as a result of referral for this reason.

The static unit service has little chance of catching on unless new cases are found and its value realised. One does not know how many patients, perhaps recovered from the condition which took them to the doctor, don't bother to attend the Mass Radiography Unit or find the weekly sessions inconvenient. Furthermore, the doctor who entertains tuberculosis as a diagnosis naturally refers his patient to hospital or chest clinic. There remains a feeling of regret that regular Mass X-ray static sessions have yet to be fully tested in Whitehaven.

TABLE 12.

Mass X-ray Statistics.

Year	Number X-rayed	New active cases discovered by X-ray	Notifications during year
1952	3,513	11	23
1953	3,352	13	44
1954	3,396	10	28
1955	3,961	18	37
1956	3,974	10	41
1957	2,900	2	28
1958	1,500	1	17
1959	2,785	3	16
1960	2,743	2	19
1961	2,517	4	13
1962	4,042	6	19
1963	1,972	—	8
Total	36,455	80	293

B.C.G. Vaccination.

Table 13 shows the situation in relation to B.C.G. vaccination in Whitehaven.

TABLE 13.

B.C.G. Vaccination.

Year	No. of children eligible for test	No. & %age of parents consenting	No. tested	No. & %age Mantoux positive	No. given B.C.G.
1955	454	371 (82%)	362	124 (34%)	231
1956	434	324 (75%)	315	149 (47%)	160
1957	446	332 (75%)	325	111 (34%)	212
1958	547	409 (75%)	382	129 (34%)	251
1959	433	307 (71%)	296	88 (30%)	208
1960	549	446 (81%)	428	91 (21%)	315
1961	609	467 (77%)	437	89 (20%)	326
1962	558	438 (79%)	414	69 (17%)	294
1963	567	447 (79%)	389	51 (13%)	300

There was another fall in the number of 13 year-old children found to have been at risk of tuberculosis, as shown by skin-testing in schools. The percentage Mantoux positive was in line with the national figure (17 compared with 16 for England and Wales) in 1962, and the 1963 level of 13% shows continued improvement. A high proportion of parents continue to welcome the chance to have susceptible children immunised against tuberculosis.

Mention has been made in earlier reports also of the declining value of the tuberculosis death rate as a guide to the state of tuberculosis in small populations. The point has been reached in my view at which they are of no particular value in Whitehaven and no table of tuberculosis deaths has been included in this report. Deaths attributable to tuberculosis continue to be shown in the Registrar-General's summary of causes of death in Table 8.

REPORT

OF THE

CHIEF PUBLIC HEALTH INSPECTOR

Public Health Department,
53, *Duke Street,*
WHITEHAVEN.

To the Medical Officer of Health,
WHITEHAVEN.

Sir,

I wish to submit my thirteenth Annual report for the year ended 31st December, 1963.

Once again the year was one of steady progress unmarked by any outstanding factors in the work of the department.

Housing continues to demand the greatest amount of time but the number of slum dwellings has so far been reduced that the day to day complaints of defects, so long a time absorbing feature of the work, has fallen off considerably.

The interest in grant aided improvements by house owners (including owner-occupiers) has been disappointing in spite of the generous financial inducements and letters of appeal. It is difficult to ascertain the cause of this inertia: the grants are adequate, loans are available and builders ready to do this class of work, but yet the response is poor.

The hygiene of food and food premises was kept under surveillance and the inspection of the numerous clubs which have sprung up in the district was carried out before the licences were granted by the Court. This co-operation on the standards of licensed premises during recent years is a pleasing feature and has resulted in not only the abolition of unsatisfactory premises but in the greatly enhanced hygienic standards in nearly all public houses in the district.

Some progress can be reported in the Clean Air field.

One hundred per cent Meat Inspection was carried out as usual and water, milk and ice cream were sampled during the year.

Section A.
HOUSING.

NEW BUILDINGS:—Sixty-four dwellinghouses were completed by the Corporation during the year and one hundred and twelve were under construction on the 31st December, 1963.

Seventy-five were completed by private builders and fourteen were under construction on 31st December, 1963.

DISPLACEMENTS:—Fifty families were removed from unfit dwellinghouses and rehoused by the Corporation.

PROCEDURE:—Twenty-four unfit dwellings were closed following Housing Act 1957 (16) action for individual dwellings: 20 were closed in Confirmed Clearance Areas: three were closed after informal agreement with the owners concerned and 3 were owned by the Corporation.

Four further Clearance Areas were in preparation by the end of the year and few areas now remain that are large enough to be dealt with by this procedure.

REPAIRS:—The number of houses in which repairs were necessary has been falling in recent years due to the shrinking numbers of substandard properties remaining and fewer complaints are received. Considerable delay was experienced in having repairs carried out owing to the pressure of work on jobbing builders but no trouble was experienced with house owners.

IMPROVEMENTS:—The response from owners of dwellinghouses to effect improvements has again been disappointing. A comprehensive survey was carried out during the year to gain information on the number of dwellings lacking one or more of the five basic amenities which rank for standard grants. Of 1,000 houses visited 275 had all five amenities: 200 had none: 125 lacked a foodstore: the remaining 400 lacked bathrooms and/or hot water supply. The owners (many also occupiers) were approached and the scheme of grants and loans was explained. The net result of these labours was nil. No more applications for grants were received than would have been received without this extra effort at "selling the grant idea." While it is difficult to

pinpoint the reason for this lack of response especially on the part of owner-occupiers, doubtless a strong factor is sheer inertia—the unwillingness to voluntarily alter a way of life when it means workmen in the house and extra expense. No person visited denied the desirability of these modern amenities: may would move to a Corporation house at a higher rent if such an offer were made. Yet the inertia remains. I am still of the opinion that all houses without these amenities should be classified as unfit.

Twenty-three houses were improved by Standard grant aid during the year and one by discretionary improvement.

REDEVELOPMENT:—There was further progress during the year in the demolition of outworn and slum property in the town. In the George Street area demolition of all houses on the north side of George Street was completed and the erection of further flats continued. Mark Lane, Strand Street and Marlborough Street areas were demolished to make way for road widening and new commercial buildings. The demolition of the Sandhills Lane Clearance area was completed.

OVERCROWDING:—No accurate figures can be quoted but the evidence from house to house visits shows little or no statutory overcrowding by persons. Many houses are occupied by more than one family but there are no houses let in multiple occupation.

RENT ACT 1957:—This Act has not aroused any interest in the district. No certificates of disrepair were applied for or issued during the year.

CARAVANS:—The Corporation's caravan site was fully occupied during the year. No improvements have been carried out and the Corporation would be wise to reconsider the decision, taken some time ago, to spend money on perpetuating a caravan site in the district. I would suggest that as plots become vacant the site is run down and eventually abolished.

The Moresby Road site has reverted to occupation by itinerant traders. No control is possible, no rent is charged and the site is frequently untidy. These people cannot or will not change their habits and soon or later physical means to prevent entry onto this land will have to be adopted.

RECORD OF INSPECTIONS

Accumulations	55
Atmospheric Pollution	48
Bakehouses	57
Caravans	160
Drainage works	63
Drains tested	—
Drains repaired	40
Drains inspected	40
Disinfestations	16
Factories	98
Fish Friers	18
Food Shops	321
Food Preparers	73
Housing Acts	1570
Ice cream premises	55
Infectious Disease Inquiries	64
Infectious Disease Fumigations	—
Interviews with owners/occupiers	552
Licensed premises	50
Marine Stores	12
Market Stalls	60
Milk shops and dairies	54
Outworkers	—
Overcrowding	—
Pet Animals Act	12
Public Health Acts	372
Rag Flock Act	2
Rent Act, 1957	—
Restaurants	25
Repairs revisits	261
Rodent Control	108
Slaughterhouses	954
Swimming Baths	14
Verminous premises	—
Vessels in Harbour	78
Water Samples	18
Miscellaneous	363
Total	5,613

REPAIRS AND IMPROVEMENTS

Accumulations	9
Chimney stack/flues repaired	7
Drains cleared	30
Drains repaired or renewed	21
Dustbins provided	25
Eavesgutters repaired	29
External walls repaired	19
Floors repaired	27
Flushing cisterns repaired	19
Gullies repaired/renewed	21
Houses disinfested	—
Houses fumigated	4
Rain water pipes renewed	31
Roofs repaired	20
Sinks provided	17
W.C. pans fixed	30
Wall and ceiling plaster renewed	23
Windows repaired/renewed	32
Totals	364

Section B.

FOOD

I. Food premises in the district numbered 218.

II(a) Premises registered under the Food and Drugs Act:

Ice cream (sale and storage)	70
Potted, pickled, preserved food (Meat products, fish cakes, etc.)	18
Fried fish shops	8

II(b) Dairies and Milk Supply.

All milk sold in the district is Tuberculin Tested, Pasteurised or Sterilised and 18 persons are registered for the sale of milk. Licences are issued by the County Council but sampling, supervision and inspection of premises is carried out by this department.

Most of the milk sold is bottled in a large establishment outside the district, the local dairymen acting as distributors. Sampling was carried out from time to time during the year with the following results: —

Pasteurised	6 Satisfactory.
T.T.	7 Satisfactory.
T.T. (Pasteurised)	4 Satisfactory.

III. All food shops, stores and premises handling and processing food were inspected during the year. The standards were, with few exceptions, maintained. No trouble was experienced and the awareness of occupiers to the value of hygienic premises and practices is a rewarding feature. No prosecutions were necessary.

IV. Educational Activity.

Once again no scheme of hygiene education was organised. In the course of ordinary inspections of food premises, when direct contact is made with occupiers and staff, opportunities are taken to emphasize the necessity for hygienic practices.

V. Disposal of Condemned Foodstuffs.

Miscellaneous articles of food, surrendered as unfit for human consumption, are destroyed by deep burying on the Overend refuse tip. Meat and meat products from the slaughterhouses are collected several times weekly by an approved agent and removed to another district for industrial processing.

VI. No large stocks of food were examined during the year.

VII. Ice Cream Heat Treatment Regulations 1947-52.

With one exception, all ice cream sold within the district is manufactured in other parts of the country by well known firms and arrives in a pre-packed state. This imported ice cream is sold from shops engaged in other food trades, is

stored in conservators, and is prepacked on sale. One local manufacturer continues to operate successfully and uses the hot mix method.

A few ice cream vans (which are not registrable) enter the district and sell the ice cream of nationally known brands.

Samples taken during the year gave satisfactory results.

VIII. Food Hygiene Regulations 1960.

All food premises were revisited during the year including registered clubs which are increasing in numbers. The standard generally is satisfactory and small breaches of the Regulations were amended informally.

Slaughterhouses and Meat Inspection

The two licensed slaughterhouses continued to operate under the same occupiers and no changes have taken place. The Pottery Road Slaughterhouse is in full use (including Sundays) and while catering for local needs of individual butchers, is also used by numerous persons from outside the district. A very large percentage of the total kill is 'exported.' The Hensingham Slaughterhouse is used by the occupier for his own needs.

Standards were maintained during the year. All animals slaughtered were inspected before release to the trade and during the year the practice of meat marking was introduced for the first time. All carcases are now stamped with the official stamp after inspection and this duty has added to the burden of practical inspection. A charge is now levied for meat inspection services.

The standard of animal health is much improved over that of a few years ago and this is reflected in the reduced losses by condemnation.

The following table shows the number of carcases inspected and condemned: —

CARCASES INSPECTED AND CONDEMNED

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs	Horses
Number killed ...	5,807	2,573	344	27,479	5,862	—
Number inspected	5,807	2,573	344	27,479	5,862	—
All Diseases except Tuberculosis and Cysticerci.						
Whole carcases condemned	7	14	9	30	11	—
Carcases of which some part was condemned	1394		—	152	42	—
Percentage of the number inspected affected with disease other than Tuberculosis and Cysterceici	16.88		2.61	0.66	0.90	—
Tuberculosis only.						
Whole carcase condemned	1	2	—	—	—	—
Carcases of which some part or organ was condemned	—		—	—	14	—
Percentage of the number inspected affected with Tuberculosis	0.04		—	—	0.04	—
Cysticercosis						
Carcases of which some part or organ was condemned	—	5	—	—	—	—
Carcases submitted to treatment by refrigeration	—	5	—	—	—	—
Generalised and totally condemned	—	—	—	—	—	—

Total Weight of Meat Condemned, 19 Tons, 4 cwt., 26 lbs.

Other Articles of Food Surrendered

Tinned Meats	2,658	lbs.
Tinned Fruits	1,488	,,
Tinned Vegetables	1,830	,,
Tinned Fish	269	,,
Tinned Milk	81	,,
Tinned Rice	20	,,
Tinned Soups	4	,,
Cake	20	,,
Cereals	93	,,
Cheese	14	,,
Fats	4	,,
Flour	36	,,
Jellies	5	,,
Poultry	2,743	,,
Preserves	353	,,
Sausages	54	,,
Syrup	4	,,
Tea	1	,,
Total	9,677	,,

WATER SUPPLY

The Corporation relinquished control of water supplies and the South Cumberland Water Board is now the sole water undertaking for the district. No other change has taken place.

I. Water is gravity fed from Ennerdale Lake through the treatment house situated near the intake point and flows to the pumping station at Summergrove from whence it is pumped to several reservoirs for distribution. All reservoirs are closed type save the one situated at Scragill, Whitehaven.

II. The water is treated at the treatment house for hardness rectification and chlorination dosage. Bacteriological examinations were taken at regular intervals and results are shown in the Appendix to this report. The water is upland surface water and is naturally soft.

III. There is no evidence of plumbo-solvency.

IV. The gathering grounds are free from contamination by house drainage or other undesirable matter, the few farms situated on the western side of the lake have suitable treatment works for drainage and a single hotel has a modern sewage disposal plant.

V. The number of dwellinghouses supplied with water was 7,966 and the population 27,600.

Sewerage: The district is fully sewered except for the village of Sandwith and the entire sewage is discharged untreated to the sea on an unattractive part of the coast which is heavily polluted and fortunately little frequented. No change has taken place in the system of sewage disposal since it was introduced.

Section C.

MISCELLANEOUS

I. Factories Act 1937-59.

A table is appended showing factories in the district and inspections carried out.

II. Rag Flock and Other Filling Materials Act, 1951.

No rag flock is manufactured but two premises are licensed under this Act for the manufacture of filling material. This product is produced from animal hair and the trade is well conducted.

III. Pet Animals Act, 1951.

Three Premises were registered for the sale of pets. The trade is for the most part in cage birds although tropical fish and occasionally, puppies are sold in one establishment. The premises were satisfactory and no complaint was necessary in the conduct of the businesses.

IV. Offensive Trades.

Two premises are registered as offensive trades, a rag and bone dealer and a tripe and gut preparer. The trade is small in each case and was conducted satisfactorily.

V. Rodent Control.

No significant change took place in this subject during the year. The number of complaints and of cases discovered varies little from year to year from which it would appear that measures of control serve the purpose. The sewers of the town and the refuse tip were treated from time to time with extensive use of Warfarin baits and from the amount of bait consumed the rat population was not large. Treatments were given free to householders and a nominal charge made for business premises.

VI. Smoke Abatement and Atmospheric Pollution.

The amount of pollution cannot be said to have been much reduced during the year. Negotiations with the owners of shunting coal fired locomotives in the dock area have not achieved success and this matter is being actively pursued as the proximity of the docks to the shopping areas gives rise to much smoke nuisance. The use of smokeless fuels has been suggested and this we hope, will be put into effect shortly. Coal fired steamers are at liberty to make smoke for twenty minutes in the hour when preparing for sea and this problem remains.

While domestic smoke has been reduced in the town area of recent years due to (mainly) the removal of dwelling-houses, there is still room for improvement. The building of three storeyed flats in the George Street area that will have all electric heating is a welcome move in the right direction although it may be noted that atmospheric pollution as a subject played but a minor role in the decision to construct such dwellings. The heating arrangements of every new building should be studied from a smoke abatement point of view but until smokeless fuels can be obtained cheaply and easily economics are likely to prevail.

Pollution other than smoke is confined to emissions from one particular source, a large chemical factory on the weather side of the town. Every effort was made by visits, negotiations with the management and also with the officers of the Alkali Inspectorate to keep emissions down to acceptable levels.

VII. Collection and Disposal of Refuse.

No change has taken place in the method of this service during the year. All refuse is disposed of by tipping into a large disused quarry. Serious consideration should be given to the paper sack system and economics alone should not be the only factor to be considered. A small increase in costs initially would be a small price to pay for a hygienic system befitting these times but opposition to a change is likely and must be overcome. Disposal by correct tipping methods offers opportunities for recovery of waste land.

VIII. Disinfections and Verminous Premises.

This once large problem is now reduced to very small proportions due to improvement in housing standards and modern insecticides. No cases of bugs were discovered but infestations of cockroaches and flies occurred and were treated.

IX. Public Swimming Baths.

There is one establishment owned and managed by the local authority. The baths are in constant use and prove very popular.

Chlorinated water drawn from the town mains is used in the bath; a continuous circulation through sand filters, together with suitable chlorination dosage is maintained to provide a satisfactory bath water. Bacteriological sampling is carried out regularly and results are satisfactory.

I am,

Yours faithfully,

ARTHUR A. BELDON.

Chief Public Health Inspector.

APPENDIX

WATER ANALYSIS

Date	Before or after Chlorination	Number of organisms per ml. Nutrient Agar after 48 hours at 37°C.	Number of organisms per ml. Nutrient Agar after 3 days at 20/22°C.	Probable No. of Coliform organisms per 100 mls.	Clostridium Welchii per 50 mls.	Remarks
25- 2-63	After	2	5	0	Positive in 2 days	Satisfactory
7- 5-63	After	6	6	0	Positive in 2 days	—do—
26- 6-63	After	2	Approx. 400	0	Positive in 3 days	Attention should be given to the efficiency of the chlorination treatment.
24- 7-63	After	Uncountable	Uncountable		Negative	Indicates absence of residual chlorine.
27- 8-63	After	3	Approx. 1,200	2	Positive in 3 days	Dosage of chlorine should be increased.
8-10-63	After	2	264	0	Positive in 4 days	Attention should be given to the efficiency of the chlorination treatment.
4-11-63	After	1	29	0	Positive in 2 days	Satisfactory.
25-11-63	After	0	20	0	Positive in 2 days	—do—
23-12-63	Before	1	62	0	—	—do—

SWIMMING BATHS WATER ANALYSIS

Date	After Chlorination	Number of organisms per ml Nutrient Agar after 48 hours at 37°C.	Number of organisms per ml Nutrient Agar after 3 days at 20/22°C	Probable No. of Coliform organisms per 100 mls.	Clostridium Welchii per 50 mls.	Remarks
25- 2-63	—	0	60	0	Positive in 2 days	Satisfactory.
26- 6-63	—	Uncountable	Uncountable	0	Negative	—do—
24- 7-63	—	Uncountable	1	0	Negative	—do—
27- 8-63	—	More than 1,000	More than 1,000	0	Positive in 4 days	—do—
8-10-63	—	880	144	0	Negative	—do—
4-11-63	—	11	3	0	—	—do—
25-11-63	—	0	56	0	Positive in 2 days	—do—

Public Analyst's Laboratory,
Flag Lane,
WARRINGTON.
23rd December, 1963.

To: A. A. BELDON, *Esq.*,
Chief Public Health Inspector,
53, Duke Street,
WHITEHAVEN.

REPORT upon the analysis of one sample of water, 19th December, 1963.

SAMPLE MARKED: Gauge House, Ennerdale Lake Public Supply, (Before chlorination) 17-12-63.

Analysis.

Appearance	Clear and colourless
Odour	nil.
Reaction pH	6.25
	—parts per million—
Total solids	25
Nitrogent as free and saline ammonia	0 00
Nitrogen as albuminoid ammonia	0.00
Nitrogen as nitrites	nil.
Nitrogen as nitrates	1.2
Chlorides, as Cl.	8.0
Oxygen absorbed from permanganate in 4 hours at 27°C.	0.3
Total hardness	9.0
Temporary hardness	5.0
Permanent hardness	4.0
Alkalinity	5.0
Free Chlorine	nil.
Potassium, as K	0.2
Anionic synthetic detergents ...	nil.
Manganese, as Mn.	—
Cyanides and thiocyanates ...	—
Poisonous metals	nil.

Opinion.

The water is acid in character and will have corrosive properties. The organic and bacteriological conditions are satisfactory.

for RUDDOCK & SHERRATT.
signed: J. Graham Sherratt.

Annual Report of the Medical Officer of Health in respect of the Year 1963 for the Borough of Whitehaven in the County of Cumberland

Prescribed Particulars on the Administration of the Factories Act, 1961

PART 1 OF THE ACT.

1. INSPECTIONS for purposes of provisions as to health.

Premises (1)	No. on Register (2)	Number of Inspections (3)	Written notices (4)	Occupiers Prosecuted (5)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	9	43	—	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	90	85	—	—
(iii) Other Premises in which Section 7 is enforced by the Local Authority (excluding outworkers' premises)	11	11	—	—
Total	110	139	—	—

2. Cases in which DEFECTS were found.

Particulars (1)	Found (2)	Number of cases in which Defects were found: Remedied (3)	Referred to H.M. Inspector (4)	Referred by H.M. Inspector (5)	number of cases in which prosecutions were instituted (6)
Want of cleanliness (S.1)		—	—	—	—
Overcrowding (S.2) ...	—	—	—	—	—
Unreasonable temperature (S.3)	—	—	—	—	—
Inadequate ventilation (S.4)	—	—	—	—	—
Ineffective drainage of floors (S.6)	—	—	—	—	—
Sanitary Conveniences (S.7)					
(a) Insufficient ...	2	2	—	—	—
(b) Unsuitable or defective	4	4	—		—
(c) Not separate for sexes	—	—	—	—	—
Other offences against the Act (not including offences relating to Out Work)	—	—	—	—	—
Total	6	6	—	—	—

PART VIII. OF THE ACT.

OUTWORK

(Sections 133 and 134).

Nature of Work	Section 133			Section 134		
	No. of out-Workers in August list required by Section 110(1) (c)	No. of cases of default in sending lists to the Council	No. of prose-cutions for failure to supply lists	No. of instances of work in unwhole some premises	Notices served	Prose-cution
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wear (Making apparel etc.)	3	—	—	—	—	—
Cleaning and wash-ing Houehold linen	—	—	—	—	—	—
Lace, lace curtains and nets	—	—	—	—	—	—
Curtains and furniture hangings	—	—	—	—	—	—
Furniture and Upholstery	—	—	—	—	—	—
Electro-plating	—	—	—	—	—	—
File Making	—	—	—	—	—	—
Brass and brass articles	—	—	—	—	—	—
Fur pulling	—	—	—	—	—	—
Iron and Steel cables and chains	—	—	—	—	—	—
Iron and Steel An-chors and grapnels	—	—	—	—	—	—
Cart gear	—	—	—	—	—	—
Locks, latches and keys	—	—	—	—	—	—
Umbrella's etc.	—	—	—	—	—	—
Artificial flowers	—	—	—	—	—	—
Nets, other than wire nets	—	—	—	—	—	—

PART VIII. OF THE ACT.

OUTWORK

(Sections 133 and 134).

Nature of Work	Section 133				Section 134	
	No. of out-Workers in August list required by Section 110(1) (c)	No. of cases of default in sending lists to the Council	No. of prosecutions for failure to supply lists	No. of instances of work in unwholesome premises	Notices served	Prosecution
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tents	—	—	—	—	—	—
Sacks	—	—	—	—	—	—
Racquet and tennis balls	—	—	—	—	—	—
Paper bags	—	—	—	—	—	—
The making of boxes or other receptacles or parts thereof made wholly or partially of paper	—	—	—	—	—	—
Brush making	—	—	—	—	—	—
Pea Picking	—	—	—	—	—	—
Feather sorting	—	—	—	—	—	—
Carding etc. of buttons, etc.	—	—	—	—	—	—
Stuffed toys	—	—	—	—	—	—
Basket making	—	—	—	—	—	—
Chocolates and sweetmeats	—	—	—	—	—	—
Cosaques, Christmas stockings, etc.	—	—	—	—	—	—
Textile weaving	—	—	—	—	—	—
Lampshades	—	—	—	—	—	—
Total	3	—	—	—	—	—

GEORGE TODD & SON

PRINTERS

WHITEHAVEN